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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,624	10/04/2001	Wesley B. Bruce	1263	1396
27310	7590	05/04/2004	EXAMINER	
PIONEER HI-BRED INTERNATIONAL INC. 7100 N.W. 62ND AVENUE P.O. BOX 1000 JOHNSTON, IA 50131			MEHTA, ASHWIN D	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No. 09/970,624	Applicant(s) BRUCE, WESLEY B.	
	Examiner Ashwin Mehta	Art Unit 1638	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 April 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:


Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-9.

Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Continuation Sheet


ASHWIN D. MEHTA, PH.D.
PATENT EXAMINER

Continuation of 5. does NOT place the application in condition for allowance because: Applicant's arguments were fully considered but were not found persuasive to overcome the rejection of claims 1-9 under 35 U.S.C. 112, 1st paragraph, for the reasons of record stated in the Office action mailed January 6, 2004.

Applicants argue that actual reduction to practice is not a requirement for patentability, that one skilled in the art would have no problem producing plants containing the sequences as claimed (response, paragraph bridging pages 5-6). Applicants argue that Heuer et al. describe that ZmMADS2 expression was restricted to pollen and roots, that ZmMADS2 expression was observed in root tips and confirmed by RT-PCR (response, page 6, 2nd full paragraph). However, Heuer et al. also teach that the possibility that ZmMADS2 might regulate processes specific for cells showing tip growth (pollen tubes and root hairs) are contradicted by the inability to detect ZmMADS2 transcripts in the root hair zone (page 26). Heuer et al. also indicate that target genes of ZmMADS2 have not been isolated, and the processes it is involved in remain unknown (page 26). The instant specification does not teach the genes that are affected by the ZmMADS2 transcription factor. Given these teachings, it is unknown that transgenic expression of the claimed nucleic acids would effect plant roots in the manner taught in the instant specification. Neither the specification nor the declaration submitted 17 March 2003 disclose that the claimed transgenic plants expressing the claimed nucleic acids actually displayed the phenotypes taught in the specification.

Applicants also argue that Lorz et al. disclose that the direction of expression is in pollen and root tips, and that the invention in Lorz et al. relates to pollen and/or root specific expression. Applicants argue that the combination of these two references and the instant specification would have allowed one skilled in the art at the time of filing to use the polynucleotides disclosed to modify expression in transgenic plants (response, paragraph bridging pages 6-7 and 1st full paragraph of page 7). However, the passage of Lorz et al. cited by Applicants is related to the use of the promoter, not of the coding sequence. Further, neither Lorz et al. or Heuer et al. discuss the effects of expressing the claimed nucleic acids on plant roots, and the instant specification does not provide any supportive evidence as to why they would effect the transgenic plant in the manner indicated in the specification.

Applicants also provide another prior art reference, Doerner et al., which discusses lateral root production in plants transformed with cyclins. Applicants indicate that the reference states that ectopic cyclin expression enhances root growth, that cyclin functions as a rheostat to allow flexible growth in response to environmental changes such as nutrient availability. Applicants argue that with the guidance from the specification, that one skilled in the art would be able to ascertain that the nitrate responsive polynucleotide could readily modify root growth (response, page 7, 2nd full paragraph). However, as discussed above, Heuer et al. teach that it is unlikely that ZmMADS2 might regulate processes specific for cells showing tip growth. The art cited by Applicant does not lead one to any conclusion that the claimed nucleic acids are involved in the root growth discussed by Doerner et al.

Applicant has amended claim 3 to indicate that the claimed host cell is a plant host cell. This amendment overcomes the aspect of the rejection drawn towards the use of non-plant host cells.

Continuation of 10. Other: The objection to claim 8 is withdrawn in light of the claim amendment..